World Journal of Innovative Research (WJIR)
ISSN: 2454-8236, Volume-10, Issue-4, April 2021 Pages 135-140

Approaches to enhance Instructional Media Utilization, by Senior Secondary Schools Agricultural Science Teachers in Makurdi L.G.A of Benue State, Nigeria

Ngbongha Innocent Okpa, Akaa charity Wanger, Anthony Yaro

***Abstract*—This study examines the approaches to enhance instructional media utilization by senior secondary schools agricultural science teachers. Descriptive survey research design was adopted for this study.Three objectives, three research questions and three hypotheses were formulated for this study. The population was made of eighty nine (89) agricultural science teachers in all the fourty three (43) public and private secondary schools in Makurdi Local Government Area. The population was small hence there was no sampling. A questionnaire titled Instructional Media Utilization Questionnaire (IMUQ) was administered to (89) agricultural science teachers.The respondents were expected to respond to a four pointrating scale of Strongly Agree, Agree, Disagree and Strongly Disagree respectively. The questionnaire was administered personally by the researcher with the help of two research assistants. The instruments were returned 100%. The data collected were analyzed using (mean() and standard deviation to answer question 1, 2 and 3 while chi-square was used to analyzed the hypotheses .From the findings of the study, the researcher was able to conclude that instructional media facilities used in teaching and learning of agricultural science are available as reveal in table one. Not all the instructional media materials are accessible. Also a good number of the instructional media materials are not useful except for computer aided instruction.It was therefore recommended that instructional materials available should be put to use to enhanced teaching and learning of agricultural science.The school authority should ensure that all instructional media facilities used in teaching and learning of agricultural science are accessible by the teachers for effective lesson delivery.**

***Index Terms*— Instructional mediautilization,senior secondary schools and agricultural science teachers.**

I. INTRODUCTION

Nigeria has gone through number of challenges in the educational system since independence and a number of reforms in terms of curriculum, school enrolment, infrastructure and teacher's education [13]. Instructional media encompasses all the materials and physical means an instructor might use to implement instruction and facilitate student's achievement of instructional objectives. It also refers to alternative channel of communication, which a classroom teacher can use to concretize a concept during teaching and learning processes. This include materials such as charts, slides, overheads, real objects, and videotape or firm, as well newer materials and methods such as computers, DVDs, CD-ROMs, the internet, and attractive video conferencing [5]. Faize and Dahanin [4], identify instructional media as those items designed to impact information to students in the educational process such as prints, magazine, newspapers, pictures, electronic audio-visual aids, television set, and models, among others.

According to Nwoji [10] some of the things a teacher must consider before selecting instructional media include;

(a)Consideration for the age and ability of the learner: It is very important for the teacher to put into consideration the age and abilities of his students. If the instructional media chosen and used are above the age of the learner, it can inhabit learning rather than promoting effective learning.

(b) Instructional Media must be related to the lesson objectives: any instructional media that is not geared towards helping the achievement of the lesson objective is not expected to be used in the lesson.

(c)Currency of the instructional media: any instructional media that is worthy of use in the classroom must be current. Instructional media can only be effective if there are made available, accessible in teaching and learning process.

Teaching in this modern period is increasing becoming more complex and technical to be effectively actualized with traditional tools alone. The development in the modern technology has made available a wide range of instructional media to supplement teacher's efforts in teaching and learning process[3]. To enhance the quality of teaching therefore, the teacher must make a move toward improving on the available instructional media facilities for easy accessibility. According to [5], State that any available instructional media that cannot be accessible is as good as not been used and the resultant effect lead to poor performance of students in both external and internal examination. It is well known among educators that, the educational experiences involving the learner actively participating in-concrete examples are retained longer than abstract experience.

Teaching and learning of agricultural science cannot be well accomplished without the use of instructional media because

Ngbongha Innocent Okpa, Department of Agricultural and Technology Education,College of Agricultural and Science Education, Federal University of AgricultureMakurdi, Benue State. Nigeria.
Akaa charity Wanger, Department of Agricultural and Technology Education,College of Agricultural and Science Education Federal University of Agriculture Makurdi, Benue State. Nigeria.
Anthony Yaro, Department of Agricultural Education, College of Education Zing, Taraba State, Nigeria

they promote closer and effective communication between the teacher and the learners [8]. The importance of using instructional media in the class room include: making the subject matter more real, explicating difficult concept, making the learner experience what is being learnt, helping to fire the imagination of the learners, preventing misconceptions, making learning interesting and many more. Instructional media greatly enhance retention, stimulating students' interest and make learning more permanent by providing finish experience with the realities of the physical and social environment [12].

Agricultural science teachers are those saddles with the responsibility of providing students with needed competent knowledge, skills in various aspect of agriculture to become self-reliant. All these can only thrive with the use of instructional media in teaching and learning to enhance students' performance. It is interesting to note that teachers are almost ignorant of the availability and the relevance of instructional media in agricultural science in the schools. [3]. Teachers find it difficult to use instructional media effectively in imparting knowledge to students hence the gap.

II. STATEMENT OF THE PROBLEM

The use of instructional media in improving teaching and learning seems to have become popular as many educators use a variety of instructional media technology like PowerPoint, web CT, CD- ROM, multimedia, Moodle to enhance teaching and learning. A study conducted by Zhu [18] in China showed that in the world of digital and knowledge, the education sector is faced with challenges to move away from traditional teaching towards adopting a more innovative strategy. He further reported that the situation "raises a great demand for the transformation of teachers' from traditional knowledge to the new method through the use of instructional media. It has been identified that using instructional media to facilitate learning or instructions is not always the issue but how to use it, it accessibility and availability. In the case of Benue State for instance, most of the teachers of agricultural science are almost ignorant of the availability and the relevance of instructional media in schools which has affected the quality of teaching of agricultural science in secondary schools. Thus, the researcher sought to investigate the approaches to enhance instructional media availability, accessibility and usability among agricultural science teachers in secondary schools in Benue State, Nigeria.

III. OBJECTIVE OF THE STUDY

The purpose of the study is to determine approaches to enhance instructional media utilization by senior secondary agricultural science teachers in Makurdi, Benue State, Nigeria. Specifically the determines

1. availability of instructional media in teaching and learning by agricultural science teachers in senior secondary schools in Makurdi, Benue state.
2. the extent to which the instructional media are accessible in teaching and learning by agricultural science teachers in senior secondary schools in Makurdi, Benue State.
3. The extent of utilization of instructional media in teaching and learning by agricultural science teachers in secondary schools in Makurdi, Benue State

IV. RESEARCH QUESTIONS

The following research questions are set to guide the study:

1. What are the available instructional media in teaching and learning by agricultural science teachers insenior secondary schools inMakurdi, Benue State?
2. To what extent are these instructional media accessible in teaching and learning byagricultural scienceteachers in public and private secondary schools Makurdi, Benue State?
3. How useful are instructional media in teaching and learning byagricultural science teachers in public and privatesenior secondary schools in Makurdi, Benue State?

V. RESEARCH HYPOTHESES

The study has the following null hypotheses:

1. There is no significant difference in the mean responses of teachers in private and public schools on available instructional media in teaching and learning by agricultural science teachers in senior secondary schools inmakurdi, Benue State.
2. There is no significant difference in the mean responses of teachers in private and public schools on the extent of instructional media accessibility in teaching and learning by agricultural science teachers in senior secondary schools in Makurdi, Benue State.
3. There is no significant difference in the mean responses of teachers in private and public schools on instructional media usage in teaching and learning by agricultural science teachers in senior secondary schools in Makurdi, Benue State.

VI. METHODOLOGY

Survey research design was adopted for this study. According to [14] Descriptive survey design gives the accurate assessment characteristic of the whole population of people. The target population was all the eighty nine (89) agricultural science teachers in all the fourty three (43) public and private secondary schools inMakurdi Local Government Area of Benue State. Due to the fact that the population is small the whole population was used, hence, there was no sampling.A questionnaire titled: Instructional Media Utilization Questionnaire IMUQ) was administer to (89) agricultural science teachers. The respondent, were required to rate the questionnaire on a four point scale of Strongly Agree, Agree, Disagree and Strongly Disagree respectively. The (IMUQ) was design to answer research question one to three. For AAUIMQ, scale values were assign to the respondents using the four point scale as follows: Strongly Agree= 4, Agree= 3, Disagree= 2 and Strongly Disagree= 1 for positive statements. Decision rule was that any statement having a mean of 2.50 and above was considered agree while the mean score rating of below 2.50 was considered as Disagree. To ensure the

validity of the instrument were given to two experts in agricultural Education and one expert in measurement and evaluation. The experts were required to check the appropriateness of the items in terms of clarity of language, coverage, relevance and suitability. The opinion and suggestion of the experts led to the emergence of the final instruments which were used for the study. The reliability of the instruments was determined through trial testing in ten secondary schools that were not part of the study area. Therefore, the reliability was calculated using Cronbach Alpha procedure and the value were 0.76. The reliability index for the instrument was considered well enough for the study. The questionnaire was administered personally by the researcher with the help of two research assistants. The instruments were return 100%. The data collected were analyzed using mean and standard deviation and chi-square to answer question 1, 2 and 3 respectively. Also SPSS package was use for the final analysis.

VII. RESULTS

The results are presented according to the research questions that guided the study.

Research Question One: What are the available instructional media materials use in teaching and learning by agricultural science teachers in senior secondary schools in Makurdi, Benue State?

Table 1: Mean rating and Standard Deviation on the available instructional mediamaterials in teaching and learning by agricultural science teachers in seniorsecondary schools in Makurdi, Benue State.

S/N	Available of instructional media facilities for teaching and learning of Agricultural Sciences in Secondary Schools in Makurdi L.G.A	Mean	SD	Decision
1	My school has multimedia computer instructional system use for teaching.	**2.52**	**1.056**	**Agree**
2	The school made provision for large screen T.V, audio cassette, projector tape and VCR player/recorder for practical illustration of some concept	**2.35**	**1.235**	**Agree**
3	The school has a computer room managed instruction used to organize and delivers classrooms instruction.	**2.67**	**1.074**	**Agree**
4	Tutorial software, simulation software and problem solving software in agricultural sciences are found in the school computer room	**2.12**	**1.156**	**Disagree**
5	Computer aided instruction for presentation of practices, exercise and tutorial sequence are also found in the computer room	**2.98**	**1.138**	**Agree**
6	Computer assisted learning which is use for edutainment is also found in our computer room.	**2.90**	**1.012**	**Agree**

Data in table 1 shows that all the instructional media facilities for teaching and learning of agricultural science are available except for item 4, i.e. Tutorial software, simulation software and problem solving software which are not available in the school computer room.

VIII. HYPOTHESIS ONE

There is no significant difference in the mean responses of teachers in private and public schools on available instructional media in teaching and learning by agricultural science teachers in senior secondary schools in Makurdi, Benue State

Table 2: T-test analysis of the difference in the mean ratings of teachers in private and public schools on available instructional media in teaching and learning by agricultural science teachers in senior secondary schools in Benue State.

Groups	N	Mean	SD	Df	t-cal	P-value	Sig. L
Private Teachers	68	3.06	6.50	87	1.42	0.16	0.05
Public Teachers	21	3.00	7.71				

N= Numbers of Respondents, SD= Standard Deviation, DF= Degree of Freedom, t-cal= t calculated.

In the results of Table 1, the P-value of 0.16 is greater than 0.05 level of significant at 87 degree of freedom; this implies that the test is not significant. Therefore, the null hypothesis is not rejected. This implies that there is no significant difference in the mean responses of teachers in private and public schools on available instructional media in teaching and learning by agricultural science teachers in secondary schools in Makurdi, Benue State.

Research Question Two: To what extent are these instructional media materials accessible in teaching and learning among agricultural science teachers inMakurdi, Benue State?

Table 3: Mean rating and Standard Deviation on instructional media materials accessibility in teaching and learning among agricultural science teachers in Makurdi, Benue State.

S/N	Access to instructional media facilities for teaching and learning of agricultural science	Mean	SD	Decision
1	The school multimedia computer systems are accessible to teachers for teaching instructions.	3.19	.890	Agree
2	The large screen T.V, audio cassette tape, projector and VCR	1.58	.837	Disagree

	player/recorder for practical illustration of some concepts for teaching and learning are always accessible by the teachers			
3	Access to computer room managed instruction used to organize and deliver classroom instruction is granted to teachers.	2.97	.994	Agree
4	I have access to tutorial software, simulation software and problem solving software in agricultural science.	1.94	1.015	Disagree
5	Computer aided instruction for presentation of practices, exercise and tutorial sequences are accessible to teachers in the computer room.	2.84	.928	Agree
6	The computer assisted learning which is use for edutainment is accessible to teachers within the computer room.	3.00	1.044	Agree

The result in table 2 shows that out of 6 items only 2 are not accessible (2 and 4). The rest 4 instructional media materials are accessible by teachers of agricultural science.

IX. HYPOTHESIS TWO

There is no significant difference in the mean responses of teachers in private and public schools on the extent of instructional media accessibility in teaching and learning among agricultural science teachers in secondary schools in Makurdi, Benue State.

Table 4: T-test analysis of the difference in the mean ratings of teachers in private and public schools on extent of instructional media accessibility in teaching and learning among agricultural science teachers in secondary schools in Benue State.

Groups	N	Mean	SD	DF	t-cal	P-value	Sig. L
Private Teachers	68	2.63	3.74	87	2.18	0.83	0.05
Public Teachers	21	2.59	4.83				

N= Numbers of Respondents, SD= Standard Deviation, DF= Degree of Freedom, t-cal= t calculated.

In the results of Table 2, the P-value of 0.83 is greater than 0.05 level of significant at 87 degree of freedom; this implies that the test is not significant. Therefore, the null hypothesis is not rejected. This implies that there is no significant difference in the mean responses of teachers in private and public schools on extent of instructional media accessibility in teaching and learning among agricultural science teachers in secondary schools in Makurdi, Benue State.

Research Question Three: How useful are the instructional media materials in teaching and learning among agricultural science teachers in secondary school inMakurdi, Benue State?

Table 5: Mean rating and Standard Deviation on the use of instructional media materials facilities for teaching and learning of agricultural science in Makurdi, Benue State.

S/N	Use of instructional media facilities for teaching and learning of agricultural science.	Mean	SD	Decision
1	I hardly make use of multimedia computer system for teaching and learning process.	2.43	1.065	Disagree
2	We often use large screen T.V, and VCR player/recorder for practical illustration of some concepts.	1.47	.545	Disagree
3	Computers projectors are mostly used for lessons and making presentations.	1.94	.970	Disagree
4	Computer rooms where computers managed instruction used to organize and deliver classroom instruction are accessible at least twice a week.	2.35	.978	Disagree
5	Computer aided instruction for presentation of practices; exercise and tutorial sequences in the computer room is allow to be used by teacher at all time.	2.67	1.213	Agree
6	Tutorial software, simulation software and problem solving software are in agricultural science are always used	1.72	.738	Disagree

The result in table 3 shows that five items (1, 2, 3, 4 and 6) of the instructional media facilities are not useful exception of item 5 which score above the criterion mean of 2.50. This implies that instructional media facilities are not useful in teaching and learning of agricultural science in the study area.

X. HYPOTHESIS THREE

There is no significant difference in the mean responses of teachers in private and public schools on instructional media usage in teaching and learning among agricultural science teachers in secondary schools in Makurdi, Benue State.

Table 6: T-test analysis of the difference in the mean ratings of teachers in private and public schools on extent of instructional media usage in teaching and learning among agricultural science teachers in secondary schools in Benue State.

Groups	N	Mean	SD	Df	t-cal	P-value	Sig. L
Private Teachers	68	2.70	5.46	87	3.53	0.37	0.05
Public Teachers	21	2.69	6.02				

N= Numbers of Respondents, SD= Standard Deviation, df= Degree of Freedom, t-cal= t calculated.

In the results of Table 3, the P-value of 0.37 is greater than 0.05 level of significant at 87 degree of freedom; this implies that the test is not significant. Therefore, the null hypothesis is not rejected. This implies that there is no significant difference in the mean responses of teachers in private and public schools on extent of instructional media usage in teaching and learning among agricultural science teachers in secondary schools inMakurdi, Benue State.

XI. DISCUSSION OF RESULTS

The findings of this study revealed that mostofthe instructional media facilities for teaching and learning of agricultural science are available except for tutorial software, simulation software and problem solving software which is not available in the school computer room. This is in line with [2] who asserted that most of the instructional media facilities in agricultural science in secondary schools are always available but lacking simulation software and problem solving software. This implies that teachers of agricultural science in Makurdi, Benue state Nigeria are yet to join the rest of the world in the use of simulation software and problem solving software in teaching and learning of agricultural science.

From table 2, the result shows that almost all the instructional media facilities are accessible except for large screen T.V, audio cassette tape, projector and VCR player/recorder for practical illustration of some concepts and simulation software and problem solving software. This is in accordance with [7] and [2] says that most of the ICT resourcessuch as large screen T.V, audio cassette tape, projector and VCR player/recorder for practical illustration of some concepts and simulation software and problem solving software are not always found in secondary schools and because they are not found, they cannot be access by the teachers while [3] opined that accessibility of resources in education is important because at times the resources may be available but not accessed by the users; thus becoming meaningless. This implies that when instructional media are not accessible is as good as not available. Therefore, teachers of agricultural science should be allowed access to these materials to enhanced teaching and learning.

Lastly table 3 revealed that instructional media facilities are not useful in teaching and learning of agricultural science in secondary schools in Makurdi Local Government Benue State. This implies that it is possible for the materials to be available but not useful as a result of non-functionality of the facilities, lack of confidence by the teachers in the use of the media facilities or the instructional media are out of date. To support this assertion, [15] found out that majority of the teachers lack confidence in the use of instructional media technologies.They further stress that, in some cases where the materials are provided the competence of the teachers handle them becomes another challenge. All the three hypothesis where not rejected, this implies that the test is not significant. This in agreement with [6] who said that a null hypothesis is been rejected when the calculated value is greater than the table value.

XII. CONCLUSION

From the findings of the study, the researcher was able to conclude that instructional media facilities used in teaching and learning of agricultural science are available as reveal in table one. Not all the instructional media materials are accessible. Also a good number of the instructional media materials are not useful except for computer aided instruction.

XIII. RECOMMENDATIONS

1. Available instructional media should be put to use to enhanced teaching and learning of agricultural science.
2. The school authorities should ensure that all instructional media facilities used in teaching and learning of agricultural science are accessible by the teachers for effective lesson delivery.
3. Agricultural science teachers should undergo training on how to make use of instructional media facilities to enhanced teaching and learning.

REFERENCES

[1] Achimugu L. (2017) Availability and utilization of instructional materials for teaching Chemistry in Senior Secondary Schools. Instructional Journal of lered Research in Education and learning Vol 5 pg 34.

[2] Achimugu, L. (2016) Availability of some selected information technology facilities among senior secondary school chemistry teaches in Kogi State. International Journal of Science and engineering Research, 7(4), 1466-1470

[3] Adeoye S, Popoola S.O. (2011) Teaching effectiveness, availability, accessibility and use of library and information resources among teaching staff of schools of Nursing in Osunnd Oyo http//www.webpages. vidaho.edu/mbolin/adeoye-popoola.htm State, Nigeria.

[4] Bukuge R.O. (2019) utilization of instructional materials as tools for effective academic performance of students; Implication for counseling. Innovative and Creative Education and Teaching International Conference Badajoz spain.pg 623-638.

[5] Dhakal K.R. (2014). High school students and teachers attitude toward Geography education. A study of Rammandu District, Report submitted to the UGC Nagal, Bhaktapur.

[6] Emaikwu, S. O (2019) Fundamentals of Research Methodology and Statistics. Selfers Academic Press Limited, makurdi Benue State.269-273.

[7] Fakeye, K. O. (2010). Assessment of knowledge and use of information and communication (ICT) in Ibadan South West Local Government of Oyo State.Eurasion Journal of Science Research, 5, (4), 50-59.

[8] Megbo E.C and Sekah (2015) Evaluation of Modern Development in teaching and learning process through instructional materials utilization.Instructional Journal of multidisciplinary Research and Development 2(9), 123-127.
[9] Nnorone M.R. (2012). Availability and usability of basic science Laboratoryfacilities for teaching basic science in upper basic Secondary school.In O. Abonyi (Ed) 53 and Annual conference processing of science teachers association of Nigeria (STAN), 183-189, Ibadan, HEBN Publisher PLC.
[10] Nwoji J.R. (2010), Evaluating the use of learning resources for primary science education: Implication for learners. Proceedings of Annual Conference STAN, Nigeria.38-41.
[11] Nworgu, B. A. (2006). Educational research: Basic issues and methodology.Second edition.Nsukka: University trust publishers. Pg 196-200.
[12] Okobia E.O. (2011) Availability and teachers' use of instructional materials and resources in the implementation of social studies in Junior Secondary Schools in Edo State, Nigeria. Review of European studies, Vol 3, Number 3; December 2011, Retried from www.ecsenat.org/res
[13] Olorundare, A.S (2014), Theory into practical: Beyond surface curriculum in science education. The 147th invirgural lecture of university of Ilorin Unilorin Press.
[14] Osuala, E.C. (2005).Introduction to research methodology (3th ed.) pp.218-235- African - Fep publishers limited. P 321
[15] Setzer, V. W and Monke. L (2010). Challenging the applications; an alternative view on why, when and how computer should be used in education". Critical and reflective practices, cresskill, New Jersey. Hampton press. Pp 141-172
[16] Totolo A. (2010).An analysis of information technology adoption situation in Botswana Secondary Schools and its impaction digital scholarship in institution of learning. Pg 69 -72
[17] Usman, A (2011), Teachers' perception of the effect and use of learning materials, University of Ilorin, Nigeria.Pg 194-196
[18] Zhu C. (2010Teacher roles and adoption of educational technology in the Chinese context. J. Edu.Res.Online.2(2):72-86http://wwwj-e-r-o.comlinder.hy/jerolartiole /viewfile/8019.